Lead, Copper, and Arsenic in Drinking Water Report

Burien Community Center Annex
425 SW 144th Street
Burien, King, Washington

January 15, 2020
Terracon Project No. 81207008

Prepared for:
MENG Analysis
Seattle, Washington

Prepared by:
Terracon Consultants, Inc.
Mountlake Terrace, Washington

January 15, 2020

MENG Analysis
2001 Western Avenue, Suite 200
Seattle, Washington 98121

Attn: Ms. Sarah Partap

RE: Lead, Copper, and Arsenic in Drinking Water
Burien Community Center Annex
14700 6th Avenue SW
Burien, Washington 98166
Terracon Project No. 81187154

Dear Ms. Partap

Terracon Consultants, Inc. (Terracon) is pleased to submit the enclosed Lead, Copper, and Arsenic in Drinking Water report for the above-referenced site. This assessment was performed in accordance with Terracon Proposal P81207008, dated January 9, 2020. The sampling was performed on January 10, 2020.

Terracon Consultants, Inc. appreciates the opportunity to be of service to MENG Analysis. If you have any questions regarding this report, please contact the undersigned at 425-771-3304.

Sincerely,
Terracon Consultants, Inc.

for John McCaslin
Project Manager

Kathie Lavaty, CIH, CSP
Senior Industrial Hygienist

TABLE OF CONTENTS

APPENDICES

Lead, Copper, and Arsenic in Drinking Water Report
Burien Community Center Annex
14700, 6TH AVENUE SW
Burien, WASHINGTON

Terracon Project No. 81207008
January 15, 2020

1.0 INTRODUCTION

Terracon Consultants, Inc. (Terracon) is pleased to present this report for the lead, copper, and arsenic in drinking water assessment conducted on January 10, 2020, at the above referenced site. Our report presents project information, drinking water sampling methodology and results, and conclusions and recommendations.

The assessment was conducted to assist the client in determining the concentrations of lead, copper, and arsenic (analytes) in drinking water. Terracon referenced the following regulations as guidelines of known conservative regulatory or guidance concentrations of the analytes:

- Lead and copper - (WAC) 170-300-0235 *Foundational Quality Standards for Early Learning Programs; Safe Waters Sources*.
- Arsenic – Environmental Protection Agencies (EPA) Maximum Contaminant Level Goals (MCLGs) and Maximum Contaminant Levels (MCLs).

2.0 EXECUTIVE SUMMARY

A lead, copper, and arsenic in drinking water assessment was conducted at the Burien Community Center Annex at 14700 6th Avenue SW in Burien, Washington, on January 10, 2020. The site is a community center annex for the city of Burien encompassing approximately 300,000 square feet which is occupied by several community groups.

Four of the 22 samples collected exceeded the regulatory limit of 15 parts per billion (ppb) for lead in drinking water.

None of the samples collected exceeded the regulatory limits of 1,300 ppb for copper in drinking water.

None of the samples collected exceeded the regulatory limits and 10 ppb for arsenic in drinking water.

3.0 REGULATIONS

Terracon referenced two regulations as guidelines for comparison with the sample results. For lead and copper, Terracon used Washington Administrative Code (WAC) Title 170, Chapter 300 *Foundational Quality Standards for Early Learning Programs; Safe Water Sources*. This regulation sets forth requirements for lead and copper testing and levels in

drinking water under in childcare and preschool facilities. For arsenic, Terracon used the Maximum Contaminant Levels (MCLs) established by the EPA's National Primary Drinking Water Regulations (NPDWR) regulation.

4.0 SAMPLING METHODOLOGY AND RESULTS

Representative first-draw samples were collected from taps at sinks and drinking fountains throughout the facility following a period of at least 6 hours where the tap was not used. The first-draw sample is representative of water contained in the fixture at the sampled location. Second-draw sampling was not performed at the time of this assessment. The drinking water samples were collected and submitted to NVL Laboratories, Inc. in Seattle, Washington., for analysis by graphite furnace atomic absorption according to EPA Method 200.9.

Sinks in rooms N7 and N28, and drinking fountains located in hallways N31 and N34 were not assessed because the water to these locations was shut off. Water flow was restored to the drinking fountain in hallway N32 for the purpose of sampling during the assessment.

According to WAC 170-300-0235, the allowable limit for lead and copper concentrations in drinking water is 15 ppb and 1,300 ppb, respectively. Lead concentrations in 4 of the 22 samples collected exceeded this limit. The copper concentrations in drinking water samples collected were found to be below this standard. According to the EPA's NPDWR, the maximum contaminant level for arsenic in drinking water is 10 ppb. The arsenic concentrations in the drinking water samples collected were found to be below this standard. A summary of the drinking water sampling results is provided below; samples with lead concentration in excess of the regulatory limit are indicated in **bold**:

Sample No.	Sample Type	Location	Lead Result	Copper Result	Arsenic Result
DW-N2-01	First Draw	Room N2 – South Sink	15 ppb	51 ppb	<5 ppb
DW-N2-02	First Draw	Room N2 – North Sink	9.7 ppb	44 ppb	<5 ppb
DW-N3-03	First Draw	Room N3 – Sink	5.3 ppb	28 ppb	<5 ppb
DW-N4-04	**First Draw**	**Restroom N4 – East Sink**	**36 ppb**	170 ppb	<5 ppb
DW-N4-05	First Draw	Restroom N4 – West Sink	6.7 ppb	170 ppb	<5 ppb
DW-N1-06	First Draw	Room N1 – Sink	<1 ppb	29	<5 ppb
DW-N6-07	**First Draw**	**Restroom N6 – East sink**	**26 ppb**	190 ppb	<5 ppb

Sample No.	Sample Type	Location	Lead Result	Copper Result	Arsenic Result
DW-N6-08	**First Draw**	**Restroom N6 – West Sink**	**21 ppb**	170 ppb	<5 ppb
DW-N16-09	First Draw	Room N16 – Sink	5.3 ppb	37 ppb	<5 ppb
DW-N35-10	First Draw	Restroom N35 – Sink	2 ppb	<5 ppb	<5 ppb
DW-N36-11	First Draw	Restroom N36 – Sink	7 ppb	46 ppb	<5 ppb
DW-N23-12	First Draw	Room N23 Sink – Sink	<1 ppb	14 ppb	<5 ppb
DW-N25-13	First Draw	Restroom N25 – Sink	14 ppb	<5 ppb	<5 ppb
DW-N26-14	First Draw	Restroom N26 – Sink	1.6 ppb	29 ppb	<5 ppb
DW-S2-15	First Draw	Room S2 Sink – Sink	3.2 ppb	48 ppb	<5 ppb
DW-S5-16	First Draw	Room S5 Sink – Sink	5.6 ppb	23 ppb	<5 ppb
DW-S9-17	**First Draw**	**Room S9 – South Sink**	**17 ppb**	87 ppb	<5 ppb
DW-S9-18	First Draw	Room S9 – North Sink	6.3 ppb	210 ppb	<5 ppb
DW-S7-19	First Draw	Restroom S7 – Sink	1.9 ppb	21 ppb	<5 ppb
DW-S6-20	First Draw	Restroom S6 – Sink	1.8 ppb	61 ppb	<5 ppb
DW-S15-21	First Draw	Hallway S15 – Drinking Fountain	1.2 ppb	35 ppb	<5 ppb
DW-N32-22	First Draw	Hallway N32 – Drinking Fountain	7.3 ppb	330 ppb	<5 ppb

5.0 CONCLUSIONS AND RECOMMENDATIONS

Lead was detected above the WAC action level of 15 parts per billion (ppb) as defined in WAC 170-300-0235, in 4 of the 22 water samples collected from fixtures throughout the facility.

Copper was not detected above the WAC action level of 1,300 ppb, as defined in WAC 170-300-0235, in any of the water samples collected from fixtures throughout the facility.

Arsenic was not detected above the EPA action level of 10 ppb, as defined in the EPA NPDWR, in any of the water samples collected from fixtures throughout the facility.

The samples collected were from the first-draw of water in the day. This means the water sat stagnant in the pipes a minimum of six hours prior to sample collection. First draw samples help to determine if the fixture has the potential to contribute lead in the water. Terracon recommends that second-draw samples (also called 30-second flush samples) be collected from locations where lead levels above 15 ppb were found. Second draw samples help identify lead in the plumbing behind the fixture.

The table below summarizes locations where Terracon detected lead levels above the referenced regulation.

Sample No.	Sample Type	Location	Lead Result
DW-N4-04	First Draw	Restroom N4 – East Sink	36 ppb
DW-N6-07	First Draw	Restroom N6 – East sink	26 ppb
DW-N6-08	First Draw	Restroom N6 – West Sink	21 ppb
DW-S9-17	First Draw	Room S9 – South Sink	17 ppb

If elevated lead levels persist, Terracon recommends that the building owner consider one or more of the various methods available for remediation of lead in drinking water. Remediation methods are widely available on the EPA's website and may include the following:

- **Learn if building has a lead service line**. Contact the water utility or a licensed plumber to determine if the pipe that connects the building to the water main (called a service line) is made from lead.
- **Run the water.** Before drinking, flush the pipes by running the tap. The amount of time to run the water will depend on whether there is a lead service line or not, and the length of the lead service line. Contact the water utility for recommendations about flushing times.
- **Clean the aerator.** Regularly clean the faucet's screen (also known as an aerator). Sediment, debris, and lead particles can collect in the aerator. If lead particles are caught in the aerator, lead can get into the water.
- **Use filters properly.** If a filter is being used, make sure it is certified to remove lead. Read the directions to learn how to properly install and use the cartridge and when to replace it. Using the cartridge after it has expired can make it less effective at removing lead. Follow the manufacturer's installation and maintenance guidelines.

6.0 GENERAL COMMENTS

This drinking water sampling was conducted in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing under similar conditions in the same locale. The results, findings, conclusions, and recommendations expressed in this report are based on conditions observed during our inspection of the building. The information contained in this report is relevant to the dates on which this inspection was performed and should not be relied upon to represent conditions at a later date.

This report has been prepared on behalf of and exclusively for use by MENG Analysis.

Contractors, consultants or others reviewing this report must draw their own conclusions regarding further investigation or remediation deemed necessary. Terracon does not warrant the work of regulatory agencies, laboratories or other third parties supplying information which may have been used in the preparation of this report. No warranty, express or implied is made.

APPENDIX A

DRINKING WATER SAMPLING LABORATORY ANALYSIS REPORT

January 13, 2020

NVL
INDUSTRIAL HYGIENE SERVICES
LABORATORY + MANAGEMENT + TRAINING

John McCaslin
Terracon - Mountlake Terrace
21905 64th Ave. W #100
Mountlake Terrace, WA 98043

RE: Metals Analysis; NVL Batch # 2000743.00

Client Project: 81207008
Location: Burien Community Building

Dear Mr. McCaslin,

Enclosed please find test results for the 15 sample(s) submitted to our laboratory for analysis on 1/10/2020.

Preparation and analysis of these samples were conducted using Graphite Furnace Atomic Absorption (GFAA) instrument in accordance with U.S. EPA method EPA 200.9 .

This report is considered highly confidential and will not be released without your approval. Samples are archived for two weeks following analysis. Samples that are not retrieved by the client will be discarded after two weeks.

For recent regulation updates regarding current regulatory levels, please refer to your local regulatory agencies for more details.

Thank you for using our laboratory services. If you need further assistance, please contact us at 206-547-0100 or 1-888-NVLLABS.

Sincerely,

Evelyn Ahulu, EM Lab Manager

Enc.: Sample results

ilac-MRA
AIHA LAP, LLC
ACCREDITED LABORATORY
INDUSTRIAL HYGIENE & ENVIRONMENTAL LEAD
ISO/IEC 17025:2005
WWW.AIHAACCREDITEDLABS.ORG
LAB # 101861

Analysis Report
Total Metals

Client: Terracon - Mountlake Terrace
Address: 21905 64th Ave. W #100
Mountlake Terrace, WA 98043

Attention: **Mr. John McCaslin**

Project Location: Burien Community Building

Batch #: 2000743.00
Matrix: Drinking Water
Method: EPA 200.9
Client Project #: 81207008
Date Received: 1/10/2020
Samples Received: 15
Samples Analyzed: 15

Lab ID	Client Sample #	Element	RL (ug/L)	Results in ug/L	Results in ppb
20013194	DW-N2-01	Lead (Pb)	1.0	15.0	15.0
		Arsenic (As)	5.0	< 5.0	< 5.0
		Copper (Cu)	5.0	51.0	51.0
20013195	DW-N2-02	Lead (Pb)	1.0	9.7	9.7
		Arsenic (As)	5.0	< 5.0	< 5.0
		Copper (Cu)	5.0	44.0	44.0
20013196	DW-N3-03	Lead (Pb)	1.0	5.3	5.3
		Arsenic (As)	5.0	< 5.0	< 5.0
		Copper (Cu)	5.0	28.0	28.0
20013197	DW-N4-04	Lead (Pb)	1.0	36.0	36.0
		Arsenic (As)	5.0	< 5.0	< 5.0
		Copper (Cu)	5.0	170.0	170.0
20013198	DW-N4-05	Lead (Pb)	1.0	6.7	6.7
		Arsenic (As)	5.0	< 5.0	< 5.0
		Copper (Cu)	5.0	170.0	170.0
20013199	DW-N1-06	Lead (Pb)	1.0	< 1.0	< 1.0
		Arsenic (As)	5.0	< 5.0	< 5.0
		Copper (Cu)	5.0	29.0	29.0
20013200	DW-N6-07	Lead (Pb)	1.0	26.0	26.0
		Arsenic (As)	5.0	< 5.0	< 5.0
		Copper (Cu)	5.0	190.0	190.0

Sampled by: Client
Analyzed by: Shalini Patel
Reviewed by: Evelyn Ahulu

Date Analyzed: 01/13/2020
Date Issued: 01/13/2020

Evelyn Ahulu, EM Lab Manager

ug/ L = Micrograms per Liter
ppb = Parts per billion

RL = Reporting Limit
'<' = Below the reporting limit

Note : Method QC results are acceptable unless stated otherwise.
Unless otherwise indicated, the condition of all samples was acceptable at time of receipt.

Bench Run No: 2020-0113-04
GFA-G2

Analysis Report
Total Metals

Client: Terracon - Mountlake Terrace
Address: 21905 64th Ave. W #100
Mountlake Terrace, WA 98043

Attention: **Mr. John McCaslin**

Project Location: Burien Community Building

Batch #: 2000743.00
Matrix: Drinking Water
Method: EPA 200.9
Client Project #: 81207008
Date Received: 1/10/2020
Samples Received: 15
Samples Analyzed: 15

Lab ID	Client Sample #	Element	RL (ug/L)	Results in ug/L	Results in ppb
20013201	DW-N6-08	Lead (Pb)	1.0	21.0	21.0
		Arsenic (As)	5.0	< 5.0	< 5.0
		Copper (Cu)	5.0	170.0	170.0
20013202	DW-N16-09	Lead (Pb)	1.0	5.3	5.3
		Arsenic (As)	5.0	< 5.0	< 5.0
		Copper (Cu)	5.0	37.0	37.0
20013203	DW-N35-10	Lead (Pb)	1.0	2.0	2.0
		Arsenic (As)	5.0	< 5.0	< 5.0
		Copper (Cu)	5.0	< 5.0	< 5.0
20013204	DW-N36-11	Lead (Pb)	1.0	7.0	7.0
		Arsenic (As)	5.0	< 5.0	< 5.0
		Copper (Cu)	5.0	46.0	46.0
20013205	DW-N23-12	Lead (Pb)	1.0	< 1.0	< 1.0
		Arsenic (As)	5.0	< 5.0	< 5.0
		Copper (Cu)	5.0	14.0	14.0
20013206	DW-N25-13	Lead (Pb)	1.0	14.0	14.0
		Arsenic (As)	5.0	< 5.0	< 5.0
		Copper (Cu)	5.0	< 5.0	< 5.0
20013207	DW-N26-14	Lead (Pb)	1.0	1.6	1.6
		Arsenic (As)	5.0	< 5.0	< 5.0
		Copper (Cu)	5.0	29.0	29.0

Sampled by: Client
Analyzed by: Shalini Patel
Reviewed by: Evelyn Ahulu
Date Analyzed: 01/13/2020
Date Issued: 01/13/2020

Evelyn Ahulu, EM Lab Manager

ug/ L = Micrograms per Liter
ppb = Parts per billion
RL = Reporting Limit
'<' = Below the reporting limit

Note : Method QC results are acceptable unless stated otherwise.
Unless otherwise indicated, the condition of all samples was acceptable at time of receipt.

Bench Run No: 2020-0113-04
GFA-G2

Analysis Report
Total Metals

Client: Terracon - Mountlake Terrace
Address: 21905 64th Ave. W #100
Mountlake Terrace, WA 98043

Attention: **Mr. John McCaslin**

Project Location: Burien Community Building

Batch #: 2000743.00
Matrix: Drinking Water
Method: EPA 200.9
Client Project #: 81207008
Date Received: 1/10/2020
Samples Received: 15
Samples Analyzed: 15

Lab ID	Client Sample #	Element	RL (ug/L)	Results in ug/L	Results in ppb
20013208	DW-S2-15	Lead (Pb)	1.0	3.2	3.2
		Arsenic (As)	5.0	< 5.0	< 5.0
		Copper (Cu)	5.0	48.0	48.0

Sampled by: Client
Analyzed by: Shalini Patel
Reviewed by: Evelyn Ahulu
Date Analyzed: 01/13/2020
Date Issued: 01/13/2020

Evelyn Ahulu, EM Lab Manager

ug/ L = Micrograms per Liter
ppb = Parts per billion
RL = Reporting Limit
'<' = Below the reporting limit

Note : Method QC results are acceptable unless stated otherwise.
Unless otherwise indicated, the condition of all samples was acceptable at time of receipt.

Bench Run No: 2020-0113-04
GFA-G2

DRINKING WATER LABORATORY SERVICES

Company Terracon - Mountlake Terrace
Address 21905 64th Ave. W #100
Mountlake Terrace, WA 98043
Project Manager Mr. John McCaslin
Phone (425) 771-3304

NVL Batch Number 2000743.00
TAT 1 Day **AH** No
Rush TAT
Due Date 1/13/2020 **Time** 3:25 PM
Email jdmccaslin@terracon.com
Fax (425) 771-3549

Project Name/Number: 81207008 **Project Location:** Burien Community Building

Subcategory Special Combinations
Item Code GFA-G2 EPA 200.9 Pb, Cu & As by GFAA <drinking water>

Total Number of Samples 15 Rush Samples

	Lab ID	Sample ID	Description	A/R
1	20013194	DW-N2-01		A
2	20013195	DW-N2-02		A
3	20013196	DW-N3-03		A
4	20013197	DW-N4-04		A
5	20013198	DW-N4-05		A
6	20013199	DW-N1-06		A
7	20013200	DW-N6-07		A
8	20013201	DW-N6-08		A
9	20013202	DW-N16-09		A
10	20013203	DW-N35-10		A
11	20013204	DW-N36-11		A
12	20013205	DW-N23-12		A
13	20013206	DW-N25-13		A
14	20013207	DW-N26-14		A
15	20013208	DW-S2-15		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Kelly AuVu		NVL	1/10/20	1525
Analyzed by	Shalini Patel		NVL	1/13/20	
Results Called by					
☐ **Faxed** ☐ **Emailed**					

Special Instructions:

Date: 1/10/2020
Time: 3:26 PM
Entered By: Kelly AuVu

CHAIN of CUSTODY SAMPLE LOG

2000743

LABORATORY + MANAGEMENT + TRAINING

Client Terracon - Mountlake Terrace
Street 21905 64th Ave. W #100
Mountlake Terrace, WA 98043

NVL Batch Number
Client Job Number 81207008
Total Samples 22
Turn Around Time ☐ 1 Hr ☐ 6 Hrs ☐ 3 Days ☐ 10 Days ☐ 2 Hrs ☐ 1 Day ☐ 4 Days ☒ 4 Hrs ☐ 2 Days ☐ 5 Days
Please call for TAT less than 24 Hrs

Project Manager Mr. John McCaslin / Mr Scott Parker
Project Location Burien Community Building

Email address jdmccaslin@terracon.com
scott.parker@terracon.com

Phone: (425) 771-3304 **Fax:** (425) 771-3549

☐ Asbestos Air	☐ PCM (NIOSH 7400)	☐ TEM (NIOSH 7402)	☐ TEM (AHERA)	☐ TEM (EPA Level II) ☐ Other
☐ Asbestos Bulk	☐ PLM (EPA/600/R-93/116)	☐ PLM (EPA Point Count)	☐ PLM (EPA Gravimetry)	☐ TEM BULK
☐ Mold/Fungus	☐ Mold Air ☐ Mold Bulk	☐ Rotometer Calibration		

METALS	Det. Limit	Matrix		RCRA Metals		Other Metals
☒ Total Metals	☐ FAA (ppm)	☐ Air Filter	☐ Paint Chips in %	☒ Arsenic (As)	☐ All 8	☐ All 3
☐ TCLP	☒ ICP (ppm)	☒ Drinking water	☐ Paint Chips in cm	☐ Barium (Ba)	☒ Lead (Pb)	☒ Copper (Cu)
☐ Cr 6	☒ GFAA (ppl	☐ Dust/wipe (Area)	☐ Waste Water	☐ Cadmium (Cd)	☐ Mercury (Hg)	☐ Nickel (Ni)
		☐ Soil	☐ Other	☐ Chromium (Cr)	☐ Selenium (Se)	☐ Zinc (Zn)
					☐ Silver (Ag)	

☐ Other Types of Analysis ☐ Fiberglass ☐ Nuisance Dust ☐ Other (Specify) _____ ☐ Silica ☐ Respirable Dust

Condition of Package: ☐ Good ☐ Damaged (no spillage) ☐ Severe damage (spillage)

Seq. #	Lab ID	Client Sample Number	Comments (e.g Sample are, Sample Volume, etc)	A/R
1		DW-N2-01		
2		DW-N2-02		
3		DW-N3-03		
4		DW-N4-04		
5		DW-N4-05		
6		DW-N1-06		
7		DW-N6-07		
8		DW-N6-08		
9		DW-N16-09		
10		DW-N35-10		
11		DW-N36-11		
12		DW-N23-12		
13		DW-N25-13		
14		DW-N26-14		
15		DW-S2-15		

	Print Below	Sign Below	Company	Date	Time
Sampled by	John McCaslin		Terracon	1/10/2020	
Relinquished by	John McCaslin		Terracon	1/10/2020	1505
Received by			NVL	1/10/2020	1525
Analyzed by					
Results Called by					
Results Faxed by					

Special Instructions: Unless requested in writing, all samples will be disposed of two (2) weeks after analysis.

January 13, 2020

NVL
INDUSTRIAL HYGIENE SERVICES
LABORATORY + MANAGEMENT + TRAINING

John McCaslin
Terracon - Mountlake Terrace
21905 64th Ave. W #100
Mountlake Terrace, WA 98043

RE: Metals Analysis; NVL Batch # 2000745.00

Client Project: 81207009
Location: Burien Community Building

Dear Mr. McCaslin,

Enclosed please find test results for the 7 sample(s) submitted to our laboratory for analysis on 1/10/2020.

Preparation and analysis of these samples were conducted using Graphite Furnace Atomic Absorption (GFAA) instrument in accordance with U.S. EPA method EPA 200.9 .

This report is considered highly confidential and will not be released without your approval. Samples are archived for two weeks following analysis. Samples that are not retrieved by the client will be discarded after two weeks.

For recent regulation updates regarding current regulatory levels, please refer to your local regulatory agencies for more details.

Thank you for using our laboratory services. If you need further assistance, please contact us at 206-547-0100 or 1-888-NVLLABS.

Sincerely,

Evelyn Ahulu, EM Lab Manager

Enc.: Sample results

ilac-MRA

AIHA LAP, LLC
ACCREDITED LABORATORY
INDUSTRIAL HYGIENE & ENVIRONMENTAL LEAD
ISO/IEC 17025:2005
WWW.AIHAACCREDITEDLABS.ORG
LAB # 101861

Analysis Report
Total Metals

Client: Terracon - Mountlake Terrace
Address: 21905 64th Ave. W #100
Mountlake Terrace, WA 98043

Attention: **Mr. John McCaslin**

Project Location: Burien Community Building

Batch #: 2000745.00
Matrix: Drinking Water
Method: EPA 200.9
Client Project #: 81207009
Date Received: 1/10/2020
Samples Received: 7
Samples Analyzed: 7

Lab ID	Client Sample #	Element	RL (ug/L)	Results in ug/L	Results in ppb
20013213	DW-S5-16	Lead (Pb)	1.0	5.6	5.6
		Arsenic (As)	5.0	< 5.0	< 5.0
		Copper (Cu)	5.0	23.0	23.0
20013214	DW-S9-17	Lead (Pb)	1.0	17.0	17.0
		Arsenic (As)	5.0	< 5.0	< 5.0
		Copper (Cu)	5.0	87.0	87.0
20013215	DW-S9-18	Lead (Pb)	1.0	6.3	6.3
		Arsenic (As)	5.0	< 5.0	< 5.0
		Copper (Cu)	5.0	210.0	210.0
20013216	DW-S7-19	Lead (Pb)	1.0	1.9	1.9
		Arsenic (As)	5.0	< 5.0	< 5.0
		Copper (Cu)	5.0	21.0	21.0
20013217	DW-S6-20	Lead (Pb)	1.0	1.8	1.8
		Arsenic (As)	5.0	< 5.0	< 5.0
		Copper (Cu)	5.0	61.0	61.0
20013218	DW-S15-21	Lead (Pb)	1.0	1.2	1.2
		Arsenic (As)	5.0	< 5.0	< 5.0
		Copper (Cu)	5.0	35.0	35.0
20013219	DW-N32-22	Lead (Pb)	1.0	7.3	7.3
		Arsenic (As)	5.0	< 5.0	< 5.0
		Copper (Cu)	5.0	330.0	330.0

Sampled by: Client
Analyzed by: Shalini Patel
Reviewed by: Evelyn Ahulu

Date Analyzed: 01/13/2020
Date Issued: 01/13/2020

Evelyn Ahulu, EM Lab Manager

ug/ L = Micrograms per Liter
ppb = Parts per billion

RL = Reporting Limit
'<' = Below the reporting limit

Note : Method QC results are acceptable unless stated otherwise.
Unless otherwise indicated, the condition of all samples was acceptable at time of receipt.

Bench Run No: 2020-0113-05
GFA-G2

DRINKING WATER LABORATORY SERVICES

NVL

Company Terracon - Mountlake Terrace
Address 21905 64th Ave. W #100
Mountlake Terrace, WA 98043
Project Manager Mr. John McCaslin
Phone (425) 771-3304

NVL Batch Number 2000745.00
TAT 1 Day **AH** No
Rush TAT
Due Date 1/13/2020 **Time** 3:25 PM
Email jdmccaslin@terracon.com
Fax (425) 771-3549

Project Name/Number: 81207009 **Project Location:** Burien Community Building

Subcategory Special Combinations
Item Code GFA-G2 EPA 200.9 Pb, Cu & As by GFAA <drinking water>

Total Number of Samples 7 Rush Samples

	Lab ID	Sample ID	Description	A/R
1	20013213	DW-S5-16		A
2	20013214	DW-S9-17		A
3	20013215	DW-S9-18		A
4	20013216	DW-S7-19		A
5	20013217	DW-S6-20		A
6	20013218	DW-S15-21		A
7	20013219	DW-N32-22		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Kelly AuVu		NVL	1/10/20	1525
Analyzed by	Shalini Patel		NVL	1/13/20	
Results Called by					
☐ **Faxed** ☐ **Emailed**					

Special Instructions:

Date: 1/10/2020
Time: 3:29 PM
Entered By: Kelly AuVu

CHAIN of CUSTODY SAMPLE LOG

2000745

INDUSTRIAL HYGIENE SERVICES
LABORATORY + MANAGEMENT + TRAINING

Client Terracon - Mountlake Terrace
Street 21905 64th Ave. W #100
Mountlake Terrace, WA 98043

NVL Batch Number
Client Job Number 81207009
Total Samples 22
Turn Around Time ☐ 1 Hr ☐ 6 Hrs ☐ 3 Days ☐ 10 Days ☐ 2 Hrs ☐ 1 Day ☐ 4 Days ☒ 4 Hrs ☐ 2 Days ☐ 5 Days
Please call for TAT less than 24 Hrs

Project Manager Mr. John McCaslin / Mr Scott Parker
Project Location Burien Community Building
Email address jdmccaslin@terracon.com

Phone: (425) 771-3304 **Fax:** (425) 771-3549

☐ **Asbestos Air**	☐ PCM (NIOSH 7400)	☐ TEM (NIOSH 7402)	☐ TEM (AHERA) ☐ TEM (EPA Level II) ☐ Other
☐ **Asbestos Bulk**	☐ PLM (EPA/600/R-93/116)	☐ PLM (EPA Point Count)	☐ PLM (EPA Gravimetry) ☐ TEM BULK
☐ **Mold/Fungus**	☐ Mold Air ☐ Mold Bulk	☐ **Rotometer Calibration**	

METALS
☒ Total Metals
☐ TCLP
☐ Cr 6

Det. Limit
☐ FAA (ppm)
☐ ICP (ppm)
☒ GFAA (ppl)

Matrix
☐ Air Filter
☒ Drinking water
☐ Dust/wipe (Area)
☐ Soil
☐ Paint Chips in %
☐ Paint Chips in cm
☐ Waste Water
☐ Other

RCRA Metals
☒ Arsenic (As)
☐ Barium (Ba)
☐ Cadmium (Cd)
☐ Chromium (Cr)
☐ All 8
☒ Lead (Pb)
☐ Mercury (Hg)
☐ Selenium (Se)
☐ Silver (Ag)

Other Metals
☐ All 3
☒ Copper (Cu)
☐ Nickel (Ni)
☐ Zinc (Zn)

Other Types of Analysis ☐ Fiberglass ☐ Nuisance Dust ☐ Other (Specify) ☐ Silica ☐ Respirable Dust

Condition of Package: ☐ Good ☐ Damaged (no spillage) ☐ Severe damage (spillage)

Seq. #	Lab ID	Client Sample Number	Comments (e.g Sample are, Sample Volume, etc)	A/R
1		DW-55-16		
2		DW-59-17		
3		DW-59-18		
4		DW-57-19		
5		DW-56-20		
6		DW-515-21		
7		DW-NZZ-22		
8				
9				
10				
11				
12				
13				
14				
15				

	Print Below	Sign Below	Company	Date	Time
Sampled by	John McCaslin		Terracon	1/10/2020	
Relinquished by	John McCaslin		Terracon	1/10/2020	1525
Received by	Kelly Dulk		NVL	1/10/2020	1525
Analyzed by					
Results Called by					
Results Faxed by					

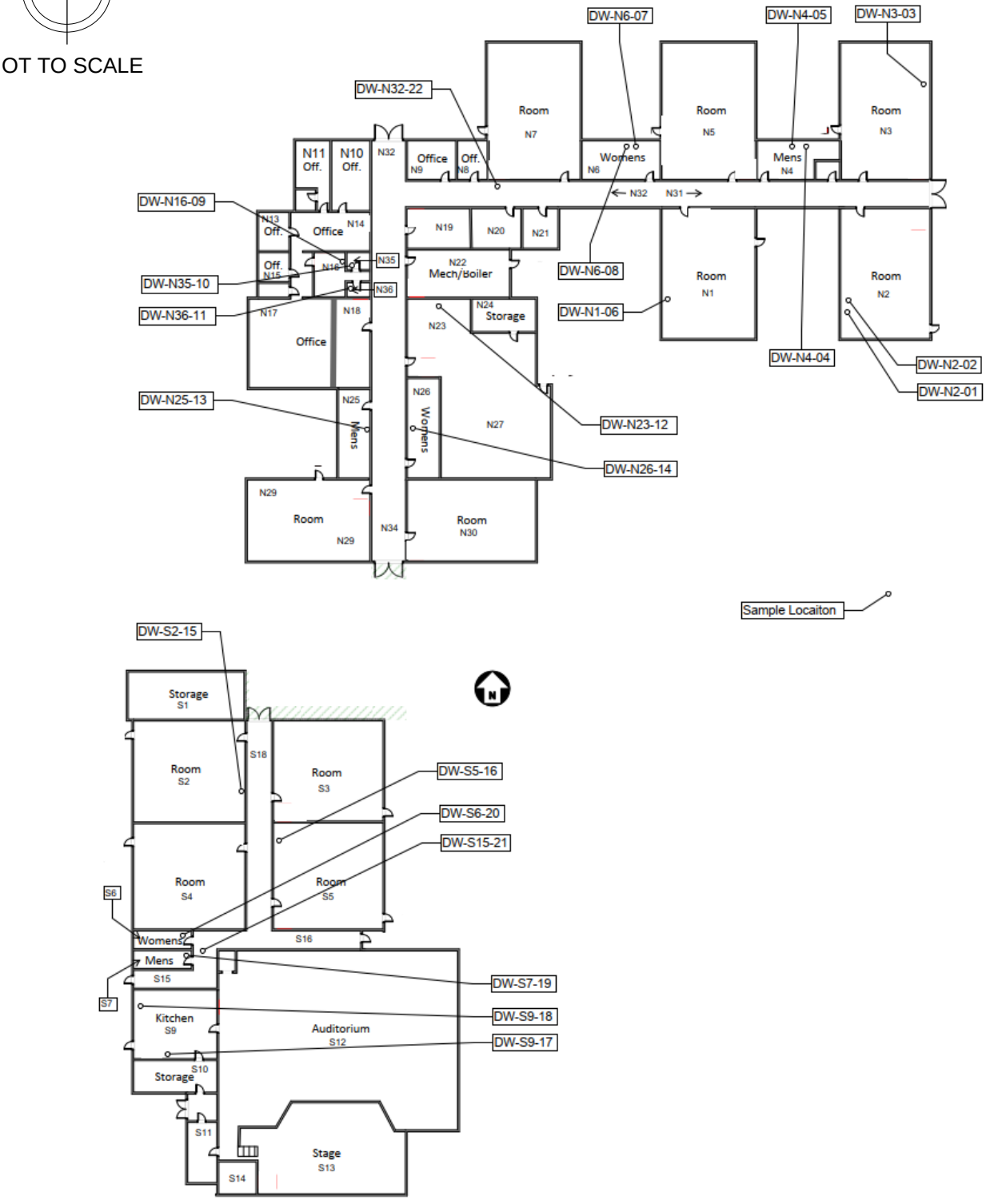
Special Instructions: Unless requested in writing, all samples will be disposed of two (2) weeks after analysis.

APPENDIX B

DRINKING WATER SAMPLING LOCATIONS

Figure 1
MENG Analysis
Burien Community Center Annex
Drinking Water Sample Locations

NOT TO SCALE



APPENDIX C

LABORATORY CERTIFICATIONS

March 29, 2019

Laboratory ID: 101861

Nghiep Vi Ly
NVL Laboratories, Inc.
4708 Aurora Avenue N.
Seattle, WA 98103

Dear Mr./Ms. Ly:

Congratulations! The AIHA Laboratory Accreditation Programs (AIHA-LAP), LLC's Analytical Accreditation Board (AAB) has approved NVL Laboratories, Inc. as an accredited Industrial Hygiene, Environmental Lead, Environmental Microbiology and Unique Scope laboratory.

Accreditation documentation includes the IHLAP, ELLAP, EMLAP and Unique Scopes accreditation certificate, scope of accreditation document and a copy of the current AIHA-LAP, LLC license agreement (if your completed agreement is not on file at AIHA-LAP, LLC). The accreditation symbol has been designed for use by all AIHA-LAP, LLC accredited laboratories. If your laboratory chooses to use the symbol in its advertising the laboratory's accreditation, you must complete and return the AIHA-LAP, LLC license agreement to a Laboratory Accreditation Specialist. Once submitted, an electronic copy of the accreditation symbol will be sent to you.

Laboratory accreditation shall be maintained by continued compliance with IHLAP, ELLAP, EMLAP and Unique Scopes requirements *(see Policy Modules 2B, 2C, 2D, 2E, and 6),* which includes proficient participation in AIHA-LAP, LLC approved proficiency testing, demonstration of competency, or round robin program as indicated on the AIHA-LAP "Approved PT and Round Robin" webpage, its associated Scope/PT table, and as required in Policy Module 6, for all Fields of Testing (FoTs) for which the laboratory is accredited. An accredited laboratory that wishes to expand into a new FoT must submit an updated accreditation application to AIHA-LAP, LLC for review by the AAB.

Any changes in ownership, laboratory location, personnel, FoTs/Methods, or significant procedural changes shall be reported to AIHA-LAP, LLC in writing within twenty (20) business days of the change.

The accreditation certificate is the property of AIHA-LAP, LLC and must be returned to us should your laboratory withdraw or be removed from the IHLAP, ELLAP, EMLAP and Unique Scopes.

Again, congratulations. If you have any questions, please contact Lauren Schnack, Laboratory Accreditation Specialist, at (703) 846-0716.

Sincerely,

Cheryl O. Morton

Cheryl O. Morton
Managing Director

AIHA Laboratory Accreditation Programs, LLC

acknowledges that

NVL Laboratories, Inc.

4708 Aurora Avenue N., Seattle, WA 98103

Laboratory ID: 101861

along with all premises from which key activities are performed, as listed above, has fulfilled the requirements of the AIHA Laboratory Accreditation Programs (AIHA-LAP), LLC accreditation to the ISO/IEC 17025:2017 international standard, *General Requirements for the Competence of Testing and Calibration Laboratories* in the following:

LABORATORY ACCREDITATION PROGRAMS

✓	**INDUSTRIAL HYGIENE**	Accreditation Expires: June 01, 2021
✓	**ENVIRONMENTAL LEAD**	Accreditation Expires: June 01, 2021
✓	**ENVIRONMENTAL MICROBIOLOGY**	Accreditation Expires: June 01, 2021
☐	**FOOD**	Accreditation Expires:
✓	**UNIQUE SCOPES**	Accreditation Expires: June 01, 2021

Specific Field(s) of Testing (FoT)/Method(s) within each Accreditation Program for which the above named laboratory maintains accreditation is outlined on the attached **Scope of Accreditation**. Continued accreditation is contingent upon successful on-going compliance with ISO/IEC 17025:2017 and AIHA-LAP, LLC requirements. This certificate is not valid without the attached **Scope of Accreditation**. Please review the AIHA-LAP, LLC website (www.aihaaccreditedlabs.org) for the most current Scope.

Beth Bair

Elizabeth Bair
Chairperson, Analytical Accreditation Board

Cheryl O. Morton

Cheryl O. Morton
Managing Director, AIHA Laboratory Accreditation Programs, LLC

Revision 17 – 09/11/2018

Date Issued: 03/29/2019

AIHA Laboratory Accreditation Programs, LLC
SCOPE OF ACCREDITATION

NVL Laboratories, Inc.
4708 Aurora Avenue N., Seattle, WA 98103

Laboratory ID: **101861**
Issue Date: 03/29/2019

The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or withdrawal of accreditation.

Industrial Hygiene Laboratory Accreditation Program (IHLAP)

Initial Accreditation Date: 04/01/1997

IHLAP Scope Category	Field of Testing (FoT) (FoTs cover all relevant IH matrices)	Technology sub-type/ Detector	Published Reference Method/Title of In-house Method	Method Description or Analyte *(for internal methods only)*
Spectrometry Core	Atomic Absorption	FAA	NIOSH 7082	
	Inductively-Coupled Plasma	ICP/AES	NIOSH 7300	
	X-ray Diffraction (XRD)		NIOSH 7500	
Asbestos/Fiber Microscopy Core	Phase Contrast Microscopy (PCM)		NIOSH 7400	
Miscellaneous Core	Gravimetric		NIOSH 0500	
			NIOSH 0600	

A complete listing of currently accredited Industrial Hygiene laboratories is available on the AIHA-LAP, LLC website at: http://www.aihaaccreditedlabs.org

AIHA Laboratory Accreditation Programs, LLC
SCOPE OF ACCREDITATION

NVL Laboratories, Inc.
4708 Aurora Avenue N., Seattle, WA 98103

Laboratory ID: **101861**
Issue Date: 03/29/2019

The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or withdrawal of accreditation.

The EPA recognizes the AIHA-LAP, LLC ELLAP program as meeting the requirements of the National Lead Laboratory Accreditation Program (NLLAP) established under Title X of the Residential Lead-Based Paint Hazard Reduction Act of 1992 and includes paint, soil and dust wipe analysis. Air and composited wipes analyses are not included as part of the NLLAP.

Environmental Lead Laboratory Accreditation Program (ELLAP)

Initial Accreditation Date: 02/07/1997

Field of Testing (FoT)	Technology sub-type/ Detector	Method	Method Description (*for internal methods only*)
Paint		EPA SW-846 3051	
		EPA SW-846 7000B	
Soil		EPA SW-846 3051	
		EPA SW-846 7000B	
Settled Dust by Wipe		EPA SW-846 3051	
		EPA SW-846 7000B	
Airborne Dust		NIOSH 7082	

A complete listing of currently accredited Environmental Lead laboratories is available on the AIHA-LAP, LLC website at: http://www.aihaaccreditedlabs.org